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P.S.
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/070,699 04/30/98 DICKENSHEETS

D A-62591-3/AJ

EXAMINER

MMC1/0315

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ART UNIT

PAPER NUMBER

2874

DATE MAILED:

03/15/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary

Application No.

09/070,699

Applicant(s)

DICKENSHEETS ET AL.

Examiner

Hung N Ngo

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 44-72 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 44-52 and 55-72 is/are rejected.
- 7) ☐ Claim(s) 53 and 54 is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) ____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 17) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other: _____

Art Unit: 2874

1. The allowability of claims 56-69 is hereby withdrawn, and the rejections made below. Any inconvenience to Applicant is regretted.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 56-72 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitations "an upper cavity formed on the upper surface of the substrate body" and "a beam steering assembly having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam through at least a portion of the first substrate body" (claim 56) are not supported in the specification. The limitations "an upper cavity formed on the upper surface of the substrate body" and "a beam steering assembly having a steerable element positioned substantially adjacent the upper cavity for controllably directing the light beam through at least a portion of the substrate body" (claims 59, 63 and 66) are not supported in the specification. The claimed language in claim 70 are not supported by the specification. Steerable elements 17, 18 and 116 described in the specification and all of the drawing figures are located within a cavity that a light beam is being transmitted through at least a portion of it. None of the steerable elements in the specification and drawings is positioned adjacent to a cavity

Art Unit: 2874

as described in claim 70. The specification does not provide support for limitations “a set of gimbal hinges” and “outermost set of hinges that provides additional axes of rotation of the hybrid micromirror” as claimed in claims 59 and 66. The specification does not support for “hinges” for providing axis of rotation to micromirrors. Such teaching is not sufficient to convey the ordinary skilled artisan to provide a set of gimbal hinges. The terms “gimbals” is defined as a pair of ring pivoted on axes at right angles to each other so that one is free to swing within the other (Webster’s New World Dictionary, 1988). Such structure is not supported by the disclosure as originally filed.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

1. Claims 44-50, 55 and 70 are rejected under 35 U.S.C. 102(e) as being anticipated by Germann et al (WO 95/13638). Germann et al discloses substrate 3, beam steering assembly 6 and 7, steerable element 6, and an optical path including an optical waveguide 3 and a groove 12 (see Figs. 2A and 2B). The length of cavity 2 is adjusted by cantilever 7. Therefore, when steerable element moving toward laser 1, the light beam would be deflected toward the lower surface of substrate 3.

Art Unit: 2874

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 51, 52, 71 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Germann et al (WO 95/13638).

Any difference imparted by the product by process limitations would have been obvious to one having ordinary skill in the art at the time the invention was made because where the examiner has found a similar product as in the applied prior art the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show the same process of making, see *In re Brown*, 173 U.S.P.Q 685, and *In re Fessmann*, 180 U.S.P.Q 324. The claimed language "cavity is anisotropically etched into the substrate body" (claim 52) is product by process limitations. Therefore, applicant must provide reasons why claim 52 is patentably distinct over the reference in order for the claim to be allowable over prior art. It is well known in the art to use chemical bonding agent such as thermal bonding agent to fix a steering assembly to a substrate since thermal bonding agent provide strong adhesion, strength reinforcement for the steering assembly, and the apparatus can be easily assembled.

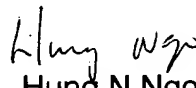
Art Unit: 2874

4. Claims 53 and 54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung N Ngo whose telephone number is (703) 308-0297. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 703-308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Hung N Ngo
Primary Examiner
Art Unit 2874

HN
March 15, 2001